SCANTECH ID
a Champtek company

V-1040BT

Wireless Handheld Laser Bar code Scanner

User’s Installation and Configuration Manual

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INTRODUCTION

V-1040BT is a cutting-edge hand-held barcode scanner which is designed specifically for retail market. To the brand new series of V-1040BT, we add on more user-friendly functions with detachable interface cable that makes it easier to be operated by the customers.

Speaking of the performance, this scanner supports middle to long range mode.V-1040BT which supports the reading depth up to 300 centimeters, and the scan rate is up to 500 scans per second.

In short, V-1040BT is absolutely a high performance gun-type scanner which provides the customer with the most cost-effective solution in the market. It is perfectly suitable and definitely the best choice for any retailers using POS environment.

The V-1040BT comes with the same top quality as all other Scantech-ID products. So at a very competitive price the same quality and performance of more expensive products is available. Due to the high MTBF times of every component, a long and service free operation time is secured.

The V-1040BT is available in different interface types, RS232, Keyboard Wedge, USB HID or Virtual comport interface, so there is always a solution to connect the V-1040BT to your POS system.

CHAPTER 1 PRODUCT SAFETY

1.1 Safety & Caution

1. Please read the following safety statement carefully.
2. Please preserve this user's manual for reference sometime.
3. Before cleaning the V-1040BT, the users must cut off all AC power. Do not use liquid or spray type of detersive to clean the V-1040BT. Please use dampish cotton cloth to clean the V-1040BT.
4. The outlet must set nearby the V-1040BT for connecting power easily.
5. Keep the V-1040BT dry to avoid short circuit.
6. During installation you must fix the equipment at solid table to avoid damage caused by falling.
7. Before inserting power please ensure the voltage is healthy to the equipment.
8. For safety please tie wire well and don't put anything on the wire.
9. If you don't use this equipment for long time, please cut off the power to avoid damage from surge power.
10. Don't spray any liquid on this scanner because it may cause a fire or short circuit.
11. Please do not open the equipment. For safety only the qualified serviceman can open the equipment.
12. If there are the following situations please contact the qualified serviceman to check this equipment.
    (a) The damage of wire or pin of power supply.
    (b) Some Liquid infiltrate into the equipment.
    (c) The equipment has been exposed to wet environment.
    (d) The equipment can't work well.
    (e) The equipment has any obvious damage, making the V-1040BT working abnormally.
13. Don't store the V-1040BT at the temperature lower than -20°C (-4°F) or higher than +70°C (158°F) to avoid any damage.

1.2 FCC Warning

This equipment complies with the requirements in Part 15 of FCC.

Any operation must comply with the conditions below:
(a) The equipment will not cause any severe interference.
(b) The equipment can avoid any interference from environment.

Statement:
This product is classified as B class product. In environment this product may cause some interference. In this situation the user may do something to avoid interference.

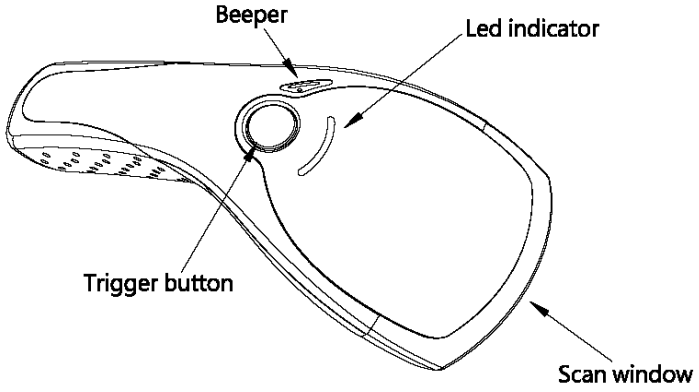
CHAPTER 2 GENERAL DESCRIPTION

2.1 Use of the V-1040BT

The V-1040BT is very ergonomic and modern designed and very user friendly. It can be connected to your POS or Host system trough a RS232 cable, KBW cable or USB cable.

To read a bar code, simply press the red trigger button and aim the beam to the bar code. It needs to position the beam to fall across all bars in the 1D barcodes. You will hear one beep and the green LED indicator will light on after scan successfully.

The programming of the V-1040BT is very easy. You can setup the V-1040BT by scan all necessary programming codes that meet applications. Thanks to the powerful decoding software, the *V-1040BT* can decode all major 1D codes.



CHAPTER 3 INSTALLATION OF THE V-1040BT

3.1 V-1040BT Unpacking

Unpack the V-1040BT as follows:

1. Take the V-1040BT and its accessories out of the box.
2. Remove the packing material.
3. Check the packing list to make sure you have received all of the items ordered.

   3.1 Standard Shipment Package:

   a. V-1040BT Laser Barcode Scanner
   b. Bluetooth Cradle
   c. Communication Cable(RS-232,keyboard wedge or USB)
   d. Power Adaptor
   e. Product Compact Disc

4. Visually inspect the V-1040BT and accessories for any evidence of physical damage.
5. If anything is missing or appears to be damaged, immediately contact your dealer.

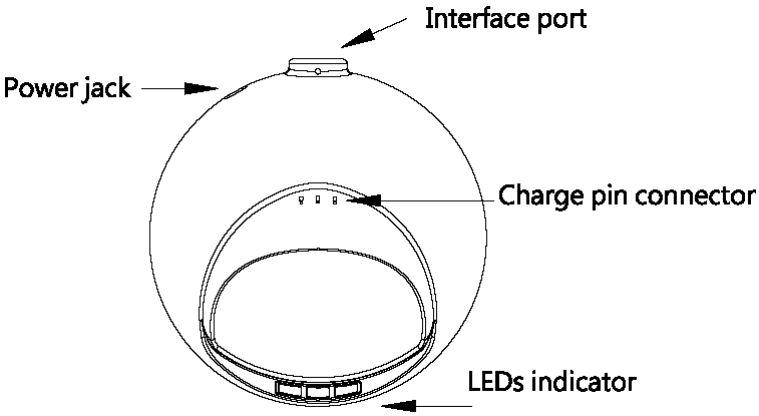
ATTENTION

Store the packing material and boxes: it should be used whenever the V-1040BT is transported for service.

3.2 V-1040BT Cradle Installation

To set up your V-1040BT scanner with Bluetooth technology, please follow the steps.

1. Connect the supplied communication cable at the bottom side of the cradle.
2. Connect the other side of the communication cable to the right connector of your POS or HOST system.
3. Plug the external power supply into the power jack on the bottom of the cradle.
4. Plug the power supply into the AC outlet.
5. Turn on your POS or HOST system.



3.3 Setup Bluetooth Communication

3.3.1 Pairing

Pairing refers to when a V-1040BT scanner has been linked or paired to a specific cradle by scanning that cradle's **Bluetooth MAC address code**. This Bluetooth MAC address code is unique for each cradle. This address code is located on the bottom side of the cradle. The pairing of a V-1040BT scanner to a cradle is one to one. Only one V-1040BT scanner can be paired to a cradle at any point in time.

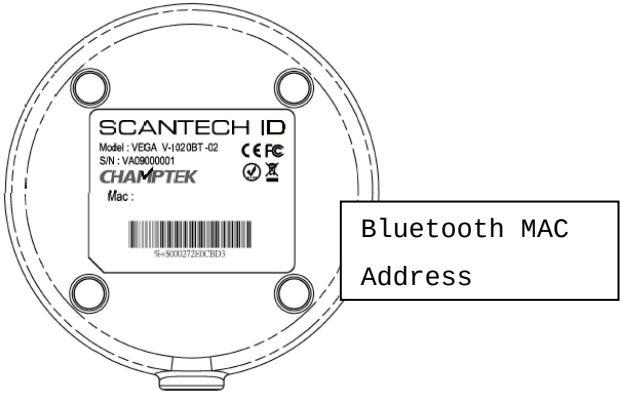
3.3.2 Setup SPP Master Mode Communication

To setup the communication between the V-1040BT scanner and the cradle, follow the steps:

1. The V-1040BT scanner must scan "SPP Master Mode" barcode to set the V-1040BT scanner in Master mode.
2. Scan the Bluetooth MAC address code located on the bottom of the cradle.
3. When the Bluetooth MAC was successfully scanned, scanner will initiate with 3 short beep sounds. Blue LED will blink followed by a long beep sound.
4. Wait approximately five seconds, for completing the connection process. Blue LED will slow flash on scanner for connecting the cradle.
5. If successful, the blue LED on the cradle will be on.
6. If the connections failed, the blue LED on scanner will be off, and the cradle indicators blinking blue LED.

ATTENTION

The *V-1040BT* scanner must be charged for a minimum of 8 hours before the scanner can be placed in full operation for the first time.
The scanner LED will indicate in red when the scanner is charged.
After the battery is full, the green LED on scanner will be on. The charge green LED will be off when the scanner leaving from cradle.
If the battery power of the *V-1040BT* is too low, the *V-1040BT* will indicate red LED and beeper warning.



It is important to know that the V-1040BT scanner will only communicate with the cradle whose unique Bluetooth MAC address was last scanned.
If a cradle is paired with the V-1040BT scanner, another V-1040BT scanner can't be paired with that cradle until the original connection is interrupted.

If you pair a second V-1040BT scanner to an in-use cradle, the cradle's connection to the first V-1040BT scanner will be interrupted and the connection will be re-established with the second V-1040BT scanner.

3.3.3 Setup SPP Slave Mode Communication

To setup the communication between the V-1040BT scanner and Bluetooth SPP profile application device, follow the steps.

1. The V-1040BT scanner must scan “SPP Slave Mode” barcode, to set the V-1040BT scanner in Slave mode.
2. When control the Bluetooth device to search the scanner, enter pin code (default 00:00:00) to setup comport.
3. When V-1040BT scanner is successful connected, the scanner Blue LED will also blink followed by a long beep sound. Blue LED will slow flash to finish the set up.

3.3.4 Setup HID Slave Mode Communication

To setup the communication between the V-1040BT scanner and Bluetooth HID profile application device, follow the steps.

1. The V-1040BT scanner must scan “HID Slave Mode” barcode, to set the V-1040BT scanner in HID Slave mode.
2. When control the Bluetooth device to search the scanner, enter pin code to setup pair. You can scan number barcode on Appendix B.”ASCII VALUE TABLE” number 0~9 to setup.
3. When V-1040BT scanner is successful connected, scanner Blue LED will also blink followed by a long beep sound. Blue LED will slow flash to finish the setup.

3.3.5 Sleep Mode

The V-1040BT scanner enters sleep mode to save battery energy, when the V-1040BT scanner is used for 1 minute or 10 minute time. During sleep mode all the functions and connection will be halted. After press the red trigger button the scanner will wake up and reconnect the communication with the cradle or Bluetooth device.

3.3.6 Batch Mode

This batch mode is enabled when you have scanned “Batch Mode on”. The scanned data is stored in the memory of the V-1040BT scanner instead of being transmitted. You can delete the last scanned bar code data by scanning “Delete Last Data” bar code. This function is disabled when you scan “Batch Mode OFF”.
When scan bar code “Batch Data Output”, the stored scanned data will be immediately transmitted to the host.
When scan barcode “Batch Data Clear”, all stored scanned data will be erased from memory.
The capacity of this memory depends on the scanned data. The memory size is approximately 30,000 sets of EAN13 bar code type.

3.3.7 Out of Range

When “Out of Range” function is enabled, and the scanner is working at out of transmission range, the scanned data will be stored to out-of-range memory. Memory size is approximately 25,000 sets of EAN13 bar code type.

The all stored data will be transmitted to device when the link is reconnected, and the all data store in out-of-range memory will be erased.

CHAPTER 4 CONFIGURING THE V-1040BT

4.1 Preface

How to configure the V-1040BT Scanner?

The barcode programming feature gives the possibility to change the V-1040BT scanner settings with programming labels.

4.1.1 Changing Scanner Settings with Programming Codes

You can setup your V-1040BT by scan all necessary programming codes that meet applications.

In order to change the scanner settings, please follow the sequence below:

1. Power up the scanner.
2. Open the scanner programming mode by scanning
3. “Start Configuration”.
4. Change scanner settings by scanning any of the programming code that meet applications.
5. Close the scanner programming mode by scanning
6. “End Configuration”.
7. Save configuration by scanning “Save Parameters”.

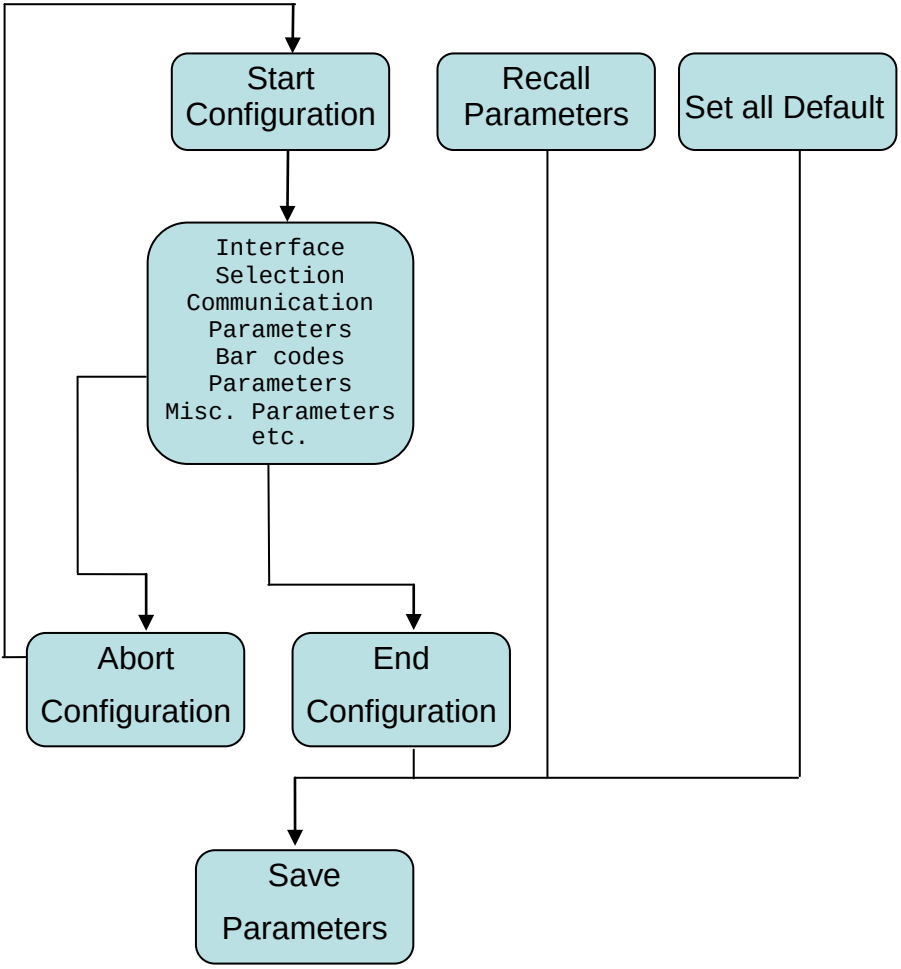
An Example:
For changing the Baud rate to 38400, the following codes must be scanned successively,

Start Configuration→Baud Rate 38400→End configuration→ Save Parameters

After reading a valid programming code the scanner, will give a three high beep and the green LED indicator will light on.

By scanning “Set All Default” label, the settings will go back to the factory default settings.

4.1.2 Programming Flow Chart



4.2 Set All Default Parameter

By scanning “Set All Default” label, the all parameters will go back to the factory default settings for scanner and cradle.

After reading a valid programming code the scanner will give three high beeps and the Green LED indicator will light on.

Set all the parameters to the factory default settings	

4.3 General Process

1 Power up the Scanner	
2 Scan the Start Configuration bar code	
3 Scan the bar code for the desired feature.	
4 Scan End of Configuration bar code	
5 Scan Save Parameters bar code	

4.3.1 Abort Configuration

Terminate current programming status.

4.3.2 Recall

Replace the current parameters by the parameters saved last time

4.3.3 Version Information

Display the Scanner version information and date code

Display the Cradle version information and date code

Display the Scanner Bluetooth MAC Address

Display the Cradle Bluetooth MAC Address

4.4 CRADLE Interface Selection

4.4.1 Interface

Keyboard Mode

RS232 Mode	
<USB HID Mode>	
USB Virtual Comport Mode	

4.5 Bluetooth Scanner Setup

4.5.1 Preface

How to configure the Bluetooth function?

The barcode programming feature gives the possibility to change the V-1040BT scanner settings with programming labels.

4.5.2 Scanner Mode

BT Parameter set default	
SPP Master Mode	
SPP Slave Mode	
HID Slave Mode	

4.5.3 *** Batch Mode (“***” means “Quick Setting Label”, The function can be executed directly by scanning barcode instead of doing the general programming process.)

***Batch Mode ON	
***<Batch Mode OFF>	
***Batch Data Output	
***Batch Data Clear	
***Delete Last Data	

4.5.4 Out of Range

<Out of Range Enable>	
Out of Range Disable	

4.5.5 Sleep Mode

Sleep Mode On after 1 minute	

Sleep Mode On after 10 minutes	
<Sleep Mode OFF>	

4.5.6 Scanner Pincode Mode

Default Security code (PINCODE=000000)	
Security Code ON	
<Security Code OFF>	

4.5.7 Scanner Pincode Setup

Set PINCODE Max 6 Digits, 0-9 and A-Z ASCII Code	
	Go to ASCII table in Appendix B, scan 6 labels that represent the PINCODE
Complete to Set PINCODE	

4.6 Bluetooth Cradle Setup

4.6.1 Cradle Pincode Mode

Default Security code (PINCODE=000000)	
Security Code ON	
<Security Code OFF>	

4.6.2 Cradle Pincode Setup

Set PINCODE Max 6 Digits, 0-9 and A-Z ASCII Code	
	Go to ASCII table in Appendix B, scan 6 labels that represent the PINCODE
Complete to Set PINCODE	

4.7 Scanner Operation

4.7.1 Reading Mode

<Good Read OFF>	

Trigger ON/OFF	
Continuous/Trigger OFF	
Continuous/Auto Power ON	
Flash	
Flash/Auto Power ON	
Auto Sence	

4.7.2 Beeper Option

<High>	
Medium	
Low	
Off	

4.7.3 Reading Level

Bar Equals High	
<Bar Equals Low>	

4.7.4 Accuracy Scan

Require 1 good decoding for a good scan	
< Require 2 consecutive decoding of the same bar code data for a good scan >	
Require 3 consecutive decoding of the same bar code data for a good scan	
Require 4 consecutive decoding of the same bar code data for a good scan	

4.7.5 Sensitivity of Continuous Reading

This feature is working under Reading Continuous Mode.

<Fast>	
Slow	

4.7.6 Reverse Output Characters

Example: 012345 → 543210

Enable	
<Disable>	

4.8 RS232 Mode Parameters

4.8.1 Baud Rate

1200	
2400	
4800	
<9600>	
19200	
38400	
57600	

4.8.2 Data/Stop Bits

The number of data/stop bits transmitted for each character

7 Data Bits	
< 8 Data Bits >	
< 1 Stop Bits >	
2 Stop Bits	

4.8.3 Parity

A Parity bit is an extra data bit used to check data transmission errors.

<None>	
Even – Select to set the parity bit either 1 or 0 to ensure the number of 1.	
Odd – Select to set the parity bit either a 1 or 0 to ensure the number of 1.	
Mark – Select to set the parity bit always 1.	
Space– Select to set the parity bit always 0.	

4.8.4 Handshaking

RTS/CTS ON – Output a Request to Send (RTS) signal and wait for a Clear to Send (CTS) signal before transmitting data	
<RTS/CTS OFF>	
ACK/NAK ON – After transmitting data, wait for host to send an ACK or a NAK response. If ACK is received, then complete the data transmission. If NAK is received, re-send the last set of data and wait for ACK/NAK again.	
<ACK/NAK OFF>	
XON/XOFF ON – After transmitting data, wait for host to send an XON or a XOFF response. If XON is received, then complete the data transmission. If XOFF is received, stop the transmission.	
<XON/XOFF OFF>	

4.9 Keyboard Wedge Mode Parameters

4.9.1 Terminal Type

<IBM PC/AT,PS/2> - Includes IBM PS/2 and compatible models 50, 55, 60, 80	
IBM PC/XT	
IBM PS/2 25, 30	
IBM 5550	
IBM 102 Key	
IBM 122 Key (1)	
IBM 122 Key (2)	
NEC 9800	
Apple Desktop Bus(ADB)	

4.9.2 Country/Language

<US English>	
UK English	
Italian	
Spanish	
French	
German	
Swedish	
Switzerland	
Hungarian	
Japanese	
Belgium	

Portuguese	
Denmark	
Netherlands	
Turkey	

4.9.3 Upper/Lower Case

<No Change>	
Enable Lower Case – Transmit all data as lower case	
Enable Upper Case – Transmit all data as upper case	

4.9.4 Capslock Detection

Enable	
<Disable>	

4.9.5 Character by ALT Method

ALT Method Enable	
<ALT Method Disable>	

4.9.6 Select Numerical Pad

Numerical Pad ON	
<Numerical Pad OFF>	

4.9.7 Interscan Code Delay

<No Delay>	
5 ms	
10 ms	
25 ms	
50 ms	

100 ms	
200 ms	
300 ms	

4.10 Output Characters

4.10.1 Select Terminator

<CR+LF>– The scanner transmits a carriage return and a line feed after each scan	
CR Suffix – The scanner transmits a carriage return after each scan	
LF Suffix – The scanner transmits a line feed after each scan	
Space	
Tab	
STX-ETX – RS232 only	
None	

4.11 Code Type

4.11.1 Barcode Selection

If “All Bar Code ON” is selected, the scanner could read all types of bar code. If “Disable” is selected for a certain bar code type, the scanner could not read the particular bar code. The symbol of “**<>**” means default setting.

All Bar Codes ON	
<UPC-A ON>	
UPC-A OFF	
<UPC-E ON>	
UPC-E OFF	
<EAN-13 / JAN-13 ON>	
EAN-13 / JAN-13 OFF	
<EAN-8 / JAN-8 ON>	
EAN-8 / JAN-8 OFF	

<CODE 39 ON>	
CODE 39 OFF	
Code32 / Italian Pharmacy ON	
<Code32 / Italian Pharmacy OFF>	
<Code 128 ON>	
Code 128 OFF	
<Interleave 2 of 5 ON>	
Interleave 2 of 5 OFF	
<Codabar/NW7 ON>	
Codabar/NW7 OFF	
Industrial 2 of 5 ON	
<Industrial 2 of 5 OFF>	

Matrix 2 of 5 ON	
<Matrix 2 of 5 OFF>	
CODE 93 ON	
<CODE 93 OFF>	
CODE 11 ON	
<CODE 11 OFF>	
MSI/PLESSEY ON	
<MSI/PLESSEY OFF>	
Telepen ON	
<Telepen OFF>	
China Postage ON	
<China Postage OFF>	

GS1 DataBar Omnidirectional ON	
<GS1 DataBar Omnidirectional OFF>	
GS1 DataBar Expanded ON	
<GS1 DataBar Expanded OFF>	
GS1 DataBar Limited ON	
<GS1 DataBar Limited OFF>	

4.12 UPC/EAN/JAN Parameters

4.12.1 Reading Type

UPC-A=EAN-13 ON Add 0 before UPC-A to make it 13 digits.	
<UPC-A = EAN-13 OFF>	
ISBN Enable	
<ISBN Disable>	

ISSN Enable	
<ISSN Disable>	
Decode with Supplement	
<Auto Discriminate Supplement>	
Expand UPC-E Enable	
<Expand UPC-E Disable>	
EAN8=EAN13 Enable	
<EAN8=EAN13 Disable>	
GTIN Format Enable	
<GTIN Format Disable>	

4.12.2 Supplemental Setup

<Not Transmit>	
2 Digit Supplemental	
5 Digit Supplemental	
2 & 5 Digit Supplemental	

4.12.3 Check Digit Transmission

<UPC-A Check Digit Transmission ON>	
UPC-A Check Digit Transmission OFF	
<UPC-E Check Digit Transmission ON>	
UPC-E Check Digit Transmission OFF	
<EAN-8 Check Digit Transmission ON>	
EAN-8 Check Digit Transmission OFF	

<EAN-13 Check Digit Transmission ON>	
EAN-13 Check Digit Transmission OFF	
<ISSN Check Digit Transmission ON>	
ISSN Check Digit Transmission OFF	

4.13 Code 39 Parameters

4.13.1 Type of Code

<Standard Code 39>	
Full ASCII Code 39	

4.13.2 Check Digit Transmission

<Do Not Calculate Check Digit>	
Calculate Check Digit and Transmit	
Calculate Check Digit and Not Transmit	

4.13.3 Output Start/Stop Character

Enable

<Disable>

4.13.4 Decode Asterisk

Enable

<Disable>

4.13.5 Setup Code Length

To set the fixed length: (2 sets available)

1. Scan the “Begin” programming code of the desired set.
2. Go to the Decimal Value Table in Appendix A. Scan programming codes that represent the length to be read.
3. Scan the “Complete” programming code of the desired set.

Repeat the steps 1 – 3 to set additional code length.

<Variable>

Fixed Length 1st Set

1st Set Begin	
Decimal Value	See Appendix A
1st Set Complete	

Fixed Length 2nd Set

2nd Set Begin	
Decimal Value	See Appendix A
2nd Set Complete	

Minimum Length

Minimum Length Begin	
Decimal Value	See Appendix A
Minimum Length Complete	

4.14 Code 128 Parameters

4.14.1 Reading Type

UCC/EAN-128 Enable	
<UCC/EAN-128 Disable>	

4.14.2 Check Digit Transmission

Do Not Calculate Check Digit	
Calculate Check Digit and Transmit	
<Calculate Check Digit and Not Transmit>	

4.14.3 Append FNC2

ON	
<OFF>	

4.14.4 Setup Code Length

To set the fixed length: (2 sets available)

1. Scan the “Begin” programming code of the desired set
2. Go to the Decimal Value Table in Appendix A. Scan programming codes that represent the length to be read.
3. Scan the “Complete” programming code of the desired set.

Repeat the steps 1 – 3 to set additional length.

<Variable>	
Fixed Length 1st Set	
1st Set Begin	
Decimal Value	See Appendix A
1st Set Complete	
Fixed Length 2nd Set	
2nd Set Begin	
Decimal Value	See Appendix A

2nd Set Complete	

Minimum Length

Minimum Length Begin	
Decimal Value	See Appendix A
Minimum Length Complete	

4.15 Interleave 2 of 5 Parameters

4.15.1 Check Digit Transmission

<Do Not Calculate Check Digit>	
Calculate Check Digit and Transmit	
Calculate Check Digit and Not Transmit	

4.15.2 Setup Number of Character

<Even>	

Odd	

4.15.3 Brazilian Banking Code

Enable	
<Disable>	

4.15.4 Setup Code Length

To set the fixed length: (2 sets available)

1. Scan the “Begin” programming code of the desired set
2. Go to the Decimal Value Table in Appendix A. Scan programming codes that represent the length to be read.
3. Scan the “Complete” programming code of the desired set.

Repeat the steps 1 – 3 to set additional length.

<Variable>	
Fixed Length 1st Set	
1st Set Begin	
Decimal Value	See Appendix A

1st Set Complete	
Fixed Length 2nd Set	
2nd Set Begin	
Decimal Value	See Appendix A
2nd Set Complete	
Minimum Length	
Minimum Length Begin	
Decimal Value	See Appendix A
Minimum Length Complete	

4.16 Industrial 2 of 5 Parameters

4.16.1 Reading Type

IATA25 Enable	
<IATA25 Disable>	

4.16.2 Check Digit Transmission

<Do Not Calculate Check Digit>	
Calculate Check Digit and Transmit	
Calculate Check Digit and Not Transmit	

4.16.3 Setup Code Length

To set the fixed length: (2 sets available)

1. Scan the “Begin” programming code of the desired set
2. Go to the Decimal Value Table in Appendix A. Scan programming codes that represent the length to be read.
3. Scan the “Complete” programming code of the desired set.

Repeat the steps 1 – 3 to set additional length.

<Variable>	
Fixed Length 1st Set	
1st Set Begin	
Decimal Value	See Appendix A
1st Set Complete	
Fixed Length 2nd Set	
2nd Set Begin	
Decimal Value	See Appendix A
2nd Set Complete	
Minimum Length	
Minimum Length Begin	

Decimal Value	See Appendix A
Minimum Length Complete	

4.17 Matrix 2 of 5 Parameters

4.17.1 Check Digit Transmission

<Do Not Calculate Check Digit>	
Calculate Check Digit and Transmit	
Calculate Check Digit and Not Transmit	

4.17.2 Setup Code Length

To set the fixed length: (2 sets available)

1. Scan the “Begin” programming code of the desired set
2. Go to the Decimal Value Table in Appendix A. Scan programming codes that represent the length to be read.
3. Scan the “Complete” programming code of the desired set.

Repeat the steps 1 – 3 to set additional length.

<Variable>	

Fixed Length 1st Set

1st Set Begin	
Decimal Value	See Appendix A
1st Set Complete	

Fixed Length 2nd Set

2nd Set Begin	
Decimal Value	See Appendix A
2nd Set Complete	

Minimum Length

Minimum Length Begin	
Decimal Value	See Appendix A

Minimum Length Complete	

4.18 CODABAR/NW7 Parameters

4.18.1 Setup Start/Stop Characters upon Transmission

ON	
<OFF>	

4.18.2 Transmission Type of Start/Stop

A/B/C/D <Start>	
A/B/C/D <Stop>	
A Start	
A Stop	
B Start	

B Stop	
C Start	
C Stop	
D Start	
D Stop	

4.18.3 Setup Code Length

To set the fixed length: (2 sets available)

1. Scan the “Begin” programming code of the desired set
2. Go to the Decimal Value Table in Appendix A. Scan programming codes that represent the length to be read.
3. Scan the “Complete” programming code of the desired set.

Repeat the steps 1 – 3 to set additional length.

<Variable>	
Fixed Length 1st Set	
1st Set Begin	

Decimal Value	See Appendix A
1st Set Complete	

Fixed Length 2nd Set

2nd Set Begin	
Decimal Value	See Appendix A
2nd Set Complete	

Minimum Length

Minimum Length Begin	
Decimal Value	See Appendix A
Minimum Length Complete	

4.19 Code 93 Parameters

4.19.1 Check Digit Transmission

Do Not Calculate Check Digit	
<Calculate Check 2 Digit and Not Transmit>	

4.19.2 Setup Code Length

To set the fixed length: (2 sets available)

1. Scan the “Begin” programming code of the desired set
2. Go to the Decimal Value Table in Appendix A. Scan programming codes that represent the length to be read.
3. Scan the “Complete” programming code of the desired set.

Repeat the steps 1 – 3 to set additional length.

<Variable>	

Fixed Length 1st Set

1st Set Begin	
Decimal Value	See Appendix A

1st Set Complete	
Fixed Length 2nd Set	
2nd Set Begin	
Decimal Value	See Appendix A
2nd Set Complete	
Minimum Length	
Minimum Length Begin	
Decimal Value	See Appendix A
Minimum Length Complete	

4.20 Code 11 Parameters

4.20.1 Check Digit Transmission

<Do Not Calculate Check Digit>	

Calculate Check 1 Digit and Transmit	
Calculate Check 1 Digit and Not Transmit	
Calculate Check 2 Digit and Transmit	
Calculate Check 2 Digit and Not Transmit	

4.20.2 Setup Code Length

To set the fixed length: (2 sets available)

1. Scan the “Begin” programming code of the desired set
2. Go to the Decimal Value Table in Appendix A. Scan programming codes that represent the length to be read.
3. Scan the “Complete” programming code of the desired set.

Repeat the steps 1 – 3 to set additional length.

<Variable>	

Fixed Length 1st Set

1st Set Begin	

Decimal Value	See Appendix A
1st Set Complete	

Fixed Length 2nd Set

2nd Set Begin	
Decimal Value	See Appendix A
2nd Set Complete	

Minimum Length

Minimum Length Begin	
Decimal Value	See Appendix A
Minimum Length Complete	

4.21 MSI/Plessey Code Parameters

4.21.1 Check Digit Transmission

<Do Not Calculate Check Digit>	
Calculate Check Digit and Transmit	
Calculate Check Digit and Not Transmit	

4.21.2 Setup Code Length

To set the fixed length: (2 sets available)

1. Scan the “Begin” programming code of the desired set
2. Go to the Decimal Value Table in Appendix A. Scan programming codes that represent the length to be read.
3. Scan the “Complete” programming code of the desired set.

Repeat the steps 1 – 3 to set additional length.

<Variable>	

Fixed Length 1st Set

1st Set Begin	

Decimal Value	See Appendix A
1st Set Complete	

Fixed Length 2nd Set

2nd Set Begin	
Decimal Value	See Appendix A
2nd Set Complete	

Minimum Length

Minimum Length Begin	
Decimal Value	See Appendix A
Minimum Length Complete	

4.22 Telepen Parameters

4.22.1 Type of Code

<Telepen ASCII ON>	
Telepen Numeric	

4.22.2 Check Digit Transmission

Do Not Calculate Check Digit	
Calculate Check Digit and Transmit	
<Calculate Check Digit and Not Transmit>	

4.22.3 Setup Code Length

To set the fixed length: (2 sets available)

1. Scan the “Begin” programming code of the desired set
2. Go to the Decimal Value Table in Appendix A. Scan programming codes that represent the length to be read.
3. Scan the “Complete” programming code of the desired set.

Repeat the steps 1 – 3 to set additional length.

<Variable>	

Fixed Length 1st Set

1st Set Begin	
Decimal Value	See Appendix A
1st Set Complete	

Fixed Length 2nd Set

2nd Set Begin	
Decimal Value	See Appendix A
2nd Set Complete	

Minimum Length

Minimum Length Begin	
Decimal Value	See Appendix A
Minimum Length Complete	

4.23 GS1 Databar Omnidirectional Parameters

4.23.1 Check Digit Transmission

<Calculate Check Digit and Transmit>	
Calculate Check Digit and Not Transmit	

4.23.2 Application ID

<Transmit Application ID> Add 01 before GS1 Databar Omnidirectional	
Do Not Transmit Application ID	

4.23.3 Symbology ID

Transmit Symbology ID Add]e0 before GS1 Databar Omnidirectional.	
<Do Not Transmit Symbology ID>	

4.24 GS1 Databar Limited Parameters

4.24.1 Check Digit Transmission

<Calculate Check Digit and Transmit>	
Calculate Check Digit and Not Transmit	

4.24.2 Application ID

<Transmit Application ID> Add 01 before GS1 Databar Limited.	
Don’t Transmit Application ID	

4.24.3 Symbology ID

Transmit Symbology ID Add]e0 before GS1 Databar Limited.	
<Don’t Transmit Symbology ID>	

4.25 GS1 Databar Expanded Parameters

4.25.1 Symbology ID

Transmit Symbology ID Add]e0 before GS1 Databar Expanded.	
<Don’t Transmit Symbology ID>	

CHAPTER 5 MISCELLANEOUS PARAMETERS

5.1 Bar Code ID

5.1.1 Default Barcode ID

With this function on, a leading character will be added to the output string while scanning code. User may refer to the following table to know what kind of barcode has being scanned.

Code Type	ID	Code Type	ID
UPC-A	A	UPC-E	B
EAN-8	C	EAN-13	D
Code 39	E	Code 128	F
Interleave 2 of 5	G	Industrial 2 of 5	H
Matrix 2 of 5	I	Codabar/NW7	J
Code 93	K	Code 11	L
China Postage	M	MSI/Plessey	N
Telepen	T	GS1 DataBar Omni.	U
GS1 DataBar Lim.	V	GS1 DataBar Exp.	W

Bar Code ID ON	
<Bar Code ID OFF>	
Default – Return from User Define to Default	

5.1.2 User Define Code ID

To set the code ID

1. Scan the symbologies programming code.
2. Go to the ASCII Table in Appendix B. Scan programming codes that represent the desired ID.

Note: User define code ID will override default value. Program will not check the conflict. It is possible to have more than two symbologies which have same code ID.

UPC-A	
UPC-E	
EAN-13/JAN-13	
EAN-8/JAN-8	
CODE 39	

CODE 128	
Codabar/NW7	
Interleave 2 of 5	
Industrial 2 of 5	
Matrix 2 of 5	
CODE 93	
CODE 11	
China Postage	
MSI/PLESSEY	
Telepen	
GS1 DataBar Omnidirectional	

GS1 DataBar Expanded	
GS1 DataBar Limited	

5.2 Preamble and Postamble Insertion

5.2.1 Setup Insertion

To set the insertion of the output characters:

1. Scan the programming code of the desired set.
2. Scan the programming code of the desired symbology
3. Go to the Decimal Value Table in Appendix A. Scan programming codes that represent the desired position to be inserted (1: the first digit, 99: the last digit).
4. Scan the “Complete” programming code of “Character Position to Be Inserted”.
5. Go to the ASCII Table in Appendix C, Scan programming codes that represent the desired characters to be inserted.
6. Scan the “Complete” programming code of “Characters to Be Inserted”.

Repeat the steps 1 – 6 to set additional insertion.

Example: Insert $ as Preamble for Code UPC-A.

Start Configuration	
1st Set	

Code UPC-A	
1st Digit	
Complete	
$	
Complete	
End Configuration	
Save Parameters	

5.2.2 Insertion Set Number

1st Set	
2nd Set	
3rd Set	
4th Set	

5th Set	
6th Set	

5.2.3 Code Type for Insertion

UPC-A	
UPC-E	
EAN-13/JAN-13	
EAN-8/JAN-8	
CODE 39	
CODE 128	
Codabar/NW7	
Interleave 2 of 5	

Industrial 2 of 5	
Matrix 2 of 5	
CODE 93	
CODE 11	
China Postage	
MSI/PLESSEY	
Telepen	
GS1 DataBar Omnidirectional	
GS1 DataBar Expanded	
GS1 DataBar Limited	
All Codes	

None

5.2.4 Position to Be Inserted

Decimal Value See Appendix A

Complete

5.2.5 Characters to Be Inserted

ASCII Table See Appendix B and C

Complete

5.3 Character Deletion

To setup the deletion of output characters:

1. Scan the programming code of the desired set.
2. Scan the programming code of the desired symbology.
3. Go to the Decimal Value Table in Appendix A. Scan programming codes that represent the desired position to be deleted.
4. Scan the “Complete” programming code of “Character Position to Be Deleted”.
5. Go to the Decimal Value Table in Appendix A. Scan programming codes that represent the number of characters to be deleted.
6. Scan the “Complete” programming code of “Number of Characters to Be Deleted”.

Repeat the steps 1 – 6 to set additional deletion.

Example: Delete first 3 digits Code EAN-13.

Start Configuration	
1st Set	
Code EAN-13	
1st Digit – Delete from the 1st digit	
Complete	
3 – Delete 3 digits	
Complete	
End Configuration	
Save Parameters	

5.3.1 Deletion Set Number

1st Set	
2nd Set	
3rd Set	
4th Set	
5th Set	
6th Set	

5.3.2 Code Type for Deletion

UPC-A	
UPC-E	
EAN-13/JAN-13	
EAN-8/JAN-8	

CODE 39	
CODE 128	
Codabar/NW7	
Interleave 2 of 5	
Industrial 2 of 5	
Matrix 2 of 5	
CODE 93	
CODE 11	
China Postage	
MSI/PLESSEY	
Telepen	

GS1 DataBar Omnidirectional	
GS1 DataBar Expanded	
GS1 DataBar Limited	
All Codes	
None	

5.3.3 Position to Be Deleted

Decimal Value	See Appendix A
Complete	

5.3.4 Number of Characters to Be Deleted

Decimal Value	See Appendix A
Complete	

APPENDIXES

A. Decimal Value Table

0	1
2	3
4	5
6	7
8	9

B. ASCII Value Table

0	1
2	3
4	5
6	7
8	9
Enter	

C. ASCII Table

NULL		SOH	
STX		ETX	
EOT		ENQ	
ACK		BEL	
BS		HT	
LF		VT	
FF		CR	
SO		SI	
DLE		DC1	
DC2		DC3	

DC4		NAK	
SYN		ETB	
CAN		EM	
SUB		ESC	
FS		GS	
RS		US	
SPACE		!	
″		#	
$		%	
&		'	
(		)	

*		+	
, Comma		- Minus	
. Period		/	
0 Number Zero		1 Number One	
2		3	
4		5	
6		7	
8		9	
:		;	
< Less Than		=	
> Greater Than		?	

@		A	
B		C	
D		E	
F		G	
H		I Letter I	
J		K	
L		M	
N		O Letter O	
P		Q	
R		S	
T		U	

V		W	
X		Y	
Z		[	
\		]	
^		_ Underscore	
`		a	
b		c	
d		e	
f		g	
h		i	
j		k	

l		m	
n		o	
p		q	
r		s	
t		u	
v		w	
x		y	
z		{	
| Vertical Slash		}	
~		DEL	

D. Function Key Table

F1		**F7**	
F2		**F8**	
F3		**F9**	
F4		**F10**	
F5		**F11**	
F6		**F12**	
Insert		**Delete**	
Home		**End**	
Page Up		**Page Down**	
Left		**Right**	

Up		**Down**	

E. Technical Specifications

Physical Characteristics: Scanner

Scanner Weight	Approx. 235g (include batteries)
Charger Weight	Approx. 135g (include adaptor)
Material	ABS Plastic
Dimension	186.8 mm(L) x 81.6 mm(W) x 63.9mm(H)

Physical Characteristics: Bluetooth Cradle

Weight	Approx 150 g
Material	ABS Plastic
Connector	RJ 45C 10Pins
Dimension	129.9 mm(L) x 120.0 mm(W) x 71.4 mm(H)

Operational

Light Source	Visible Red light 650nm Laser	
Sensor	Photo Diode	
Processor Type	ARM Cortex™-M3, 32-bit	
Operating Freq.	8 MHz	
Scan Rate	500 scans/sec ±10%	
Depth of Field	Up to 300mm@20mil/0.5mm,PCS90%,Code 39	
Print Contrast Ratio	PCS45%@5mil/0.127mm	
Minimum Resolution	4mil/0.1mm@PCS90%,Code 39	
Reading Angle		Test Conditions:PCS90% Code 39, 10mil/0.25mm
Pitch Angle	±5°~60° (±5°)	
Skew Tolerance	±5°~60° (±5°)	
Ambient Light	10,000 Lux Max.	

Electrical Characteristics

Scanner:

Battery	Li-ion 3.7V / 1400 mA
Charge Time	3.5 hours
Reads per Charge	5,000 Times
Scanner LED Indicator	Good read: Green Error / Alarm: Red Bluetooth Communication: blue
Power Consumption	
Power On	400mA
Stand by	270mA
Operation	290mA
Sleep	36mA
Cradle LED Indicator	
	Transmitted Success: Green Bluetooth Communication: blue
Input Voltage	5 VDC @ 2 A / Input AC 110-240V

Radio Characteristics

Bluetooth Module	Bluetooth V2.0 Standard
Frequency Band	2.402GHz ~ 2.480GHz
Modulation Method	GFSK for 1Mbps
RF Output Power	Class 1 (under 20dBm)
Transmission Range	Up to 80M(264FT.) line of sight

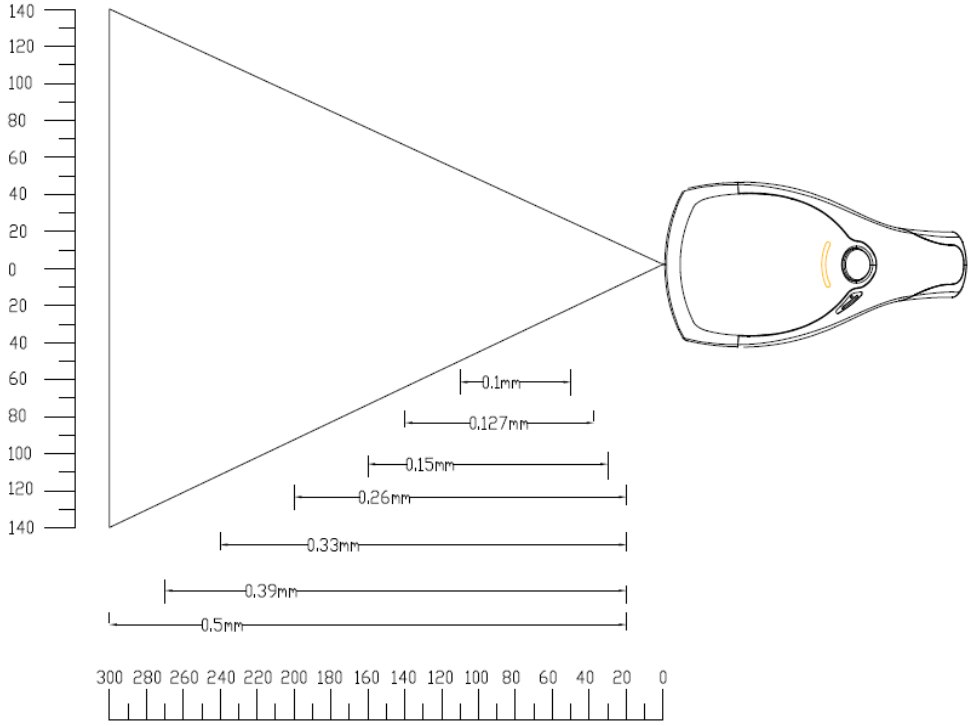
Environmental

Operating Temp.	0°C to 50°C (32°F to 122°F)
Storage Temp.	-20°C to 70°C (-4°F to 158°F)
Relative Humidity	20 to 95% non-condensing
Ambient Light Immunity	10,000 LUX max
Ingress Protection	Sealed with IP42 rating protection
Scanner Drop Specification	Functions normally after repeated 4FT./1.2M drops to concrete surface

Regulatory of Compliance

FCC	Part 15 Class B
CE	
Laser Safety	CDRH Class II, IEC Class 2

F. Scan Map



G. LED Indicator Status

Status	Scanner Indicators	
	LED	Buzzer
Power On	Green Light and Buzzer Simultaneously	Be-Be-Be* 2 loops
Battery No Power	Red Blink 3 times	Bi-Bi-Bi
Battery Low Power Alarm	Red Blink 1 time	Be per 20 seconds
Battery Very Low Power Alarm	Red Blink 4 times	Bi-Bi-Bi-Bi per 10 seconds
Memory Full	Red Blink 2 times	Be-Be
Transmitted Succeed	Green Blink 1 time	Be
Transmitted Fail	Red Blink 2 times	Be-Be
Configure Setup	Green Light and Buzzer Simultaneously	Bi-Bi-Bi
BT Connecting Build	Blue Blink 2 times per second	N/A
BT Connecting Succeed	Blue light 2 second	Up-Tone
BT Connected	Blue Blink per Second	N/A
BT Disconnect	Blue Light 2 Second	Down-Tone
Charging	Red Light Continue	N/A
Full Charge	Green Light Continue	N/A
Enter Sleep	N/A	Down-Tone
Link Quality not Good	Green/Red Blink	Di Do

‘Be’ means Long Beep, ‘Bi’ means short beep.

Status	Cradle Indicators	
	LED	Buzzer
Transmitted Succeed	Green Blink 1 Time	N/A
BT Connected	Blue Light On	N/A
BT Disconnect	Blue Blink 2 Times per Second	N/A

H. Test Symbologies

Scan one or more of these bar codes to test symbologies you enabled.

1D Symbology

Codabar/NW7	CODE 11
CODE 39	CODE 93
CODE 128	EAN 8
EAN 13	Interleave 2 of 5

ISBN 	ISSN
GS1 DataBar Omnidirectional 	GS1 DataBar Expanded
GS1 Databar Limited 	MSI / Plessey
Matrix 2 of 5 	Industrial 2 of 5
UPC A 	UPC E
Telepen 	China Postage

QUICK CONFIGURATION

Start Configuration

(Select your Settings)

End Configuration

Save Parameters

Set All Defaults

Recall Stored Parameters

Abort Configuration

Version Information

Scantech-ID BV
Vanadiumweg 22 ,
3812PZ Amersfoort
The Netherlands.
Tel:+31(0)-33-4698400
Fax:+31(0)-33-4650615
E-mail: info@scantech-id.com
Internet: www.scantech-id.com